

Appl. Ser. No. 10/817,217
Reply to the Office Action mailed 19 February 2008
Reply filed 18 April 2008

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AMENDMENTS TO THE CLAIM

Please amend claim 7 as shown below. This listing of claims replaces all prior versions, and listings, of claims in the application.

1-6. (cancelled)

7. (currently amended) A method for fixed bit rate, intraframe compression of video, including a sequence of images, comprising, for each image:
- transforming portions of the image to generate frequency domain coefficients for each portion;
 - selecting a quantization matrix according to the desired bit rate;
 - determining a bit rate for each transformed portion using a plurality of scale factors;
 - estimating distortion for each portion according to the plurality of scale factors;
 - selecting a scale factor for each portion to minimize the total distortion in the image to achieve a desired bit rate;
 - quantizing the frequency domain coefficients for each portion using the selected quantization matrix as scaled by the selected scale factor for the portion;
 - entropy encoding the quantized frequency domain coefficients using a variable length encoding to provide compressed data for each of the defined portions; and
 - outputting the compressed data for each of the defined portions to provide a compressed bitstream at the desired bit rate;
- wherein entropy encoding comprises:
- for each nonzero amplitude coefficient~~value~~ not preceded by a run of zero valued coefficients, determining whether the nonzero amplitude coefficient~~value~~ is in a base range or an index range;
 - for each nonzero amplitude coefficient~~value~~ not preceded by a run of zero valued coefficients and in the base range, encoding the nonzero amplitude coefficient~~value~~ using a code word from a first set of code words;

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for each nonzero amplitude coefficient~~value~~ not preceded by a run of zero valued coefficients and in the index range, determining an index and encoding the nonzero amplitude coefficient~~value~~ using a code word from a second set of code words, followed by the index;

for each nonzero amplitude coefficient~~value~~ preceded by a run of zero valued coefficients, determining whether the nonzero amplitude coefficient~~value~~ is in a base range or an index range;

for each nonzero amplitude coefficient~~value~~ preceded by a run of zero valued coefficients and in the base range, encoding the nonzero amplitude coefficient~~value~~ using a code word from a third set of code words and encoding the run of zero valued coefficients using a code word from a fifth set of code words and after the code word for the nonzero amplitude coefficient~~value~~; and

for each nonzero amplitude coefficient~~value~~ preceded by a run of zero valued coefficients and in the index range, determining an index and encoding the nonzero amplitude coefficient~~value~~ using a code word from a fourth set of code words, followed by the index and encoding the run of zero valued coefficients using a code word from the fifth set of code words and after the code word for the nonzero amplitude coefficient~~value~~.

8-10. (cancelled)